



AN INSURANCE-SUPPORTED MODEL TO INCREASE THE CONSTRUCTION QUALITY IN TURKEY

Özgür Üçer
Eser Durukal
Mustafa Erdik

Department of Earthquake Engineering
KOERI, Boğaziçi University, Istanbul

Aim of The Project

To contribute to the enhancement of structural safety in Turkey, and ultimately to reduce earthquake risks

by

- Modeling an Inherent Defect Insurance system
- Binding the current construction supervision system with the inherent defect insurance model

Outline

- **CSS - CONSTRUCTION SUPERVISION SYSTEM IN TURKEY**
- **INSURANCE MODELS APPLICABLE IN EUROPE**
 - PLI - Professional Liability Insurance for Contractors
 - IDI - Inherent Defect Insurance
- **MODEL PROPOSED FOR TURKEY**
 - How the IDI model works
 - Establishment of IDI system in insurance companies
 - How this model affect the current situation in supervision
 - How this model affect natural disaster damages

Construction Supervision in Turkey

- In 2000, “Decree on Building Construction Supervision” (Decree No. 595)
 - 1) Enforces mandatory design checking and construction inspection of all buildings (in Istanbul and other 26 large cities) by government-licensed private “supervision firms”
 - 2) Compulsory Professional Liability insurance for Construction Supervision firms

Construction Supervision in Turkey

- In 2001 decree no. 595 was cancelled and a modified new law (Law No.4708, June 29, 2001) began to regulate the supervision firms in Turkey.

Compulsory Professional Liability Insurance for Construction Supervision firms was omitted in the new law.

Principals of Construction Supervision

Construction Supervision Firms

- inspect all calculations, drawings, execution projects and reports.
- approve and sign the construction permit document
- report all the documents regarding the supervising works to the metropolitan municipalities, if the property is within the city limits, to governorships
- are paid by the developers/owners



Why CS system falls out of its goal

- Operate as an invisible subcontractor of the main contractor instead of being the representative of the owner
- Interdependency cause “conflict of interest” and eventually effect the performance and the reliability of constructions

INSURANCE MODELS APPLICABLE IN EUROPE

PLI- Professional Liability Insurance for contractors

Professional liability insurance (PLI) covers architects, engineers, designers, contractors and other parties involved with the construction, against possible damages due to their malpractice, faulty design and mistakes

Compulsory in USA (New Jersey), France, Finland, Italy

INSURANCE MODELS APPLICABLE IN EUROPE

IDI – Inherent Defect Insurance

Covers physical damage to a building due to faulty design, faulty workmanship and/or material defect in the structural elements (load-bearing elements essential to the strength and stability of the building, as well as works forming part of external walls and roofing) that were not evident at the date of hand over/inception, running for a period of ten years after acceptance

Compulsory in France, Spain, Canada (British Columbia), Finland ...

Model Proposed for Turkey

To regulate the construction inspection system, we propose to enhance it by

- Introducing an IDI cover for the developers/owners
- Redefining the working relationships of the construction supervision firms as follows:

CS firms

Work for the owner

Are controlled by the governmental agencies

Report to insurance firms

Are ranked by the insurance firms

Model Proposed for Turkey

IDI Policy

- Coverage: Residential buildings against defects associated with structural and nonstructural design and construction
- Compulsory for the developers or land owners.
- Construction permit not issued if no IDI policy
- Duration: ten years for structural defects, two years for non-structural defects after the hand-over

Model Proposed for Turkey

IDI policy

- Issued at the beginning of construction. (the developer pays 25% of the premium at the beginning, 75% of it at the hand-over, when the IDI cover starts.
- Excludes natural perils.

For reinsurance, the burden of an IDI covering natural disasters cannot be accommodated. As such, only by this exclusion, the reinsurance firms and the insurance firms will be support this cover in Turkey.



Model Proposed for Turkey

To ensure the quality of construction inspection by the construction supervision firm:

- CS firms are ranked by the insurers on the basis of their past performance
- The developer selects a CS firm from the list of the insurers, before the issuance of the IDI policy
- CS firms also report to the insurance firm. These reports provide the basic input for the insurance firm for the issuance of the IDI policy.

I. Phase	II. Phase : execution of construction	III. Phase
1) Issuance of IDI policy 2) Selection of the CS firm 3) Evaluation report on geotechnical investigations / design and structural design by CS to Insurance Firms and to Municipality.	1) Construction Period 2) Reports by CS to Insurer and municipality 3) Owner pays premiums to Insurance Firm	1) Final Construction Inspection report 2) Consent of insurer 3) Certificate of occupancy 4) IDI policy cover starts
Construction Permit	Hand over	Permit of occupancy



CASE STUDY

- The Case: The structure is a ten-storey, two-year-old residential building with 20 housing units. In the second year after the completion of construction slight cracks appear in the beams and infill walls separate from adjacent beams and columns. The developer had bought the IDI policy. After the completion of construction he sold the housing units to different buyers. The insurance firm added the names of the new owners to the IDI policy.
- The actors: Owner, Insurance Firm, Contractor, Supervision Firm, Local Government

CASE STUDY

- *Owner:* Files a claim to Insurer for the damages.
- *Insurance firm:*
 - Send a Loss Adjuster to investigate the damage. He/she assesses the extent and type of inherent damage.
 - Firm decides the damage is not an exclusion in the IDI policy and to pay or repair the structural and non-structural damage.



CASE STUDY

- *Insurance firm:*

Initiates an investigation to identify the cause of damage.

The investigation concludes the damage took place as a faulty application of the contractor (or the engineer, architect),

Insurer decides to sue the contractor (there is no waiver of subrogation clause in the IDI policy)

The investigation implies that the supervision firm is faulty.

Insurer degrades the CS firm in the ranking list



CASE STUDY

- *Contractor*: Liable for the loss, is sued by the insurer. If found guilty by the court, pays for the claim. He has the option to further sue its sub-contractors.
- *Supervision Firm*: degraded in the ranking list of the insurers
- *Local Government*: Decides to cancel the working permit of the supervision firm, since it has a track record with repeating low grades. Conducts annual checks on the supervision firms' list of the insurer, has its own grading of the supervision firms.



ROOM FOR FURTHER DEVELOPMENT OF THE MODEL

A compulsory PLI model still needs to be developed for the conditions of the Turkish market for all the parties involved in the construction in the future.

(Contractors, Architects, Designers and Construction Supervisions)

To Conclude

Insurers are able to control the work quality and experience of CS firms by Inherent Defect Insurance

Better Construction Supervision enhance the construction safety and reduce the disaster risks

THANK YOU

ucer.ozgur@gmail.com

oucer@genelsigorta.com



www.constructionandinsurance.com

Project Granted by:



PROVENTION
CONSORTIUM